International Journal of Computer Engineering and Data Science (ISSN: 2737-8543)
Volume 3– Issue 1, January - March 2023

Digital and Artificial Intelligence: What effects on organizational management? a literrature review

EL Ferouali Samira[1], Ouzaka brahim[2], Ouhadi Said[3]

[1]PhD student, LAREGO, Cadi Ayyad University, Marrakech

[2]PhD, LAREGO, Cadi Ayyad University, Marrakech

[3]Professor Researcher, LAREGO, Cadi Ayyad University, Marrakech

E-mail: selferouali@gmail.com, *ouzaka.brahim.94@gmail.com*, *sa.ouhadi@uca.ma*

Article history

Received Jun 20, 2023
Revised Jul 19, 2023
Accepted Jul 21, 2023
Published Jul 23, 2023

ABSTRACT

The digital, as a system within computer sciences, is evolving through the creation of various digital tools and artificial intelligence. The use of digital devices in the context of organizational management dates back to the 1950s.
This research aims to address this problem theoretically in the context of an organizational setting marked by an overuse of technology instruments. To attain this, our goal is to showcase the state-of-the-art and the realities of organizational management in a fluid and agile environment. As well, the second purpose of this article is to develop theoretical proposals based on the synthesis of the literature consulted. This, through a conceptual and theoretical exploration that focus on the analysis of the results of the previous studies, in order to understand the organizational reality in the era of digital and AI.
In addition, the increased organizational agility, governance, strategic intelligence, change capabilities, efficiency, the change in work and skills have been developed as the main research proposal. Also, our theoretical analysis highlights the ethical issues related to over-reliance on AI and digital devices.

Keywords: ***Digital, ICT, Artificial Intelligence, Organization Management.***

I. INTRODUCTION

The technological revolution never ceases to change societies, lifestyles, value systems and interactions [1]as well as the entire economic model in its entirety. The digital as a system within the computer sciences is in continuous evolution through the development of several digital tools and artificial intelligence. Indeed, these digital tools and AI present extremely important benefits for public and private sector organizations both in terms of management and decision making.

In the context of organizational management, the use of digital devices dates back to the 1950s. According to [2] the theorists of the school of decision making (Cyert, March and Herbet Simon) and the proponents of the current of bounded rationality (H. Simon) are the first researchers and academics who have recommended the use of ICT in the preparation and optimization of decision-making processes of companies [3].

Today, digital transformation is no longer a choice, but rather a necessity [4] to be able to adapt in a continuous way to the evolution of a constantly changing environment. The AI process is not limited to technological innovation, digital or robotics, but involves several disciplinary fields at once, "philosophical, ethical, strategic, sociological, managerial, etc." [1].

Despite the efforts contributed by digital and AI to improve the relationship with users through; securing the process in terms of control, reducing costs, adapting to the needs of the user or the suitability of the deliverable of AI to the need of stakeholders and strengthening the link between the administration and its users [5]. But some challenges and difficulties are reproached to the use of these digitalized devices. On the one hand, "awareness" by the fact of taking advantage and manipulating the technological tool effectively, on the other hand, the "mastery of the relationship Man-Machine", in the sense of not devaluing and denigrating the intelligence and reflexive capabilities of man [4] [1].

It is in this perspective characterized by the use of digital and AI in the context of management of organizations, that we inscribed the present research work. This is to explore theoretically the organizational reality in the era of digital and digital transformations. Indeed, this conceptual and theoretical exploration based on the analysis of the literature try to shed lights on the following objectives: first, to highlight the state of the art and the reality of organizational management in an agile and volatile context. Second, we aim to formulate theoretical proposals based on the synthesis of the literature review consulted. The main research question is defined as follow: What extent does the integration of digital and artificial intelligence contribute to the improvement of organizational management?

II. THE CONCEPTUAL FRAMEWORK

A. *Digital*

In fact, the terms "digital" is increasingly used in various discourses around digital transformation and ICT.

Several definitions of the term digital have been identified. It is defined as "the space of integration of conventions generated by the interactions between technologies and human behaviors"[6]. In the sense of Martin (2008), digital transformation "Is now commonly interpreted as such usage of Information and Communication Technology, when not trivial automation is performed, but fundamentally new capabilities are created in business, public government, and in people's and society life" cited by [7]. The design of interactive digital interface systems in organizations is becoming a growing research field that calls on multidisciplinary skills: psychology, artificial intelligence, software engineering, etc. Hence the interest of defining the concept of artificial intelligence.

Through the literature review we have pointed out a remarkable conceptual evolution following the adoption of a set of concepts derived from digital transformation, among others; the internet of things, machine learning, cloud computing, big data, industry 4.0, artificial intelligence [2] in public organizations hence the interest in defining this later concept, which falls under the jargon of digital transformation.

B. *Artificial intelligence*

Artificial intelligence is considered as an advanced level of digital transformation of organizations, as well as a tool of developing algorithms to perform tasks that require human intelligence, such as reasoning, planning and creativity. Artificial intelligence is not a new concept, it has been developed since the 50's by Alain Turing (England), with phases of boom and bust.

It is defined as "a system's ability to interpret external data correctly, to learn from such data, and to use those learnings to achieve specific goals and tasks through flexible adaptation" [8]. AI can also be defined "as an evolved logic system consisting of algorithms and capable of learning, or as a set of models using complex computer programs capable of evolving and simulating certain traits of human intelligence" [9].

Two categories of artificial intelligence could be identified; techniques known as logical and expert systems, which use data provided by humans (the case of learning platforms such as Amazon, Fractal Analytics, Google, Microsoft, online search engines, etc.), and techniques today in great evolution, which are the machine learning and the deep learning, which are based on the use of artificial neurons inspired by the human brain (machines allowing the detection of infections in the field of health, smartphones, and automatic translators, Cybersecurity, etc.) [8].

According to Pascale Zaraté, the history of artificial intelligence can be broken down into four stages: 1-The birth (1956-1966); 2-The dark years (1966-1969); 3- The revival (1969- 1979); 4- The institutionalization (1979-...) [1] ;

1-The birth (1956-1966): This is the first period, known as the enlightened years, characterized by the implementation of the first algorithms; the projects are numerous during this period and the number of programs had various themes (automatic translation of text, character recognition, etc.);

2-The dark years (1966-1969): this period is characterized by a large number of projects, but the results are less striking. It is then a period of maturation allowing the achievements of the first period to be taken up and improved;

3-The revival (1969-1979): This period is characterized by the implementation of programs or software that capture the expertise of a human on a specific task and thanks to an inference engine, it can reason by activating certain parts of the modeled knowledge. This period is marked by the creation of machines that diagnose infectious blood, diseases and propose an appropriate treatment (Shortliffe, 1976) cited by [1].

4- Institutionalization (1979 to present): After the development of expert systems, artificial intelligence has become widely used in industry but also in the academic and scientific community. Among the progresses marked during this period, we note for example: automatic speech recognition, image generators, decision trees, learning or machine learning with a particular algorithm such as deep learning, neural networks and natural language processing [1].

This period is marked by the birth of the first robotic head expressing emotions created by Cynthia Breazeal (USA) in 2000, then the launch by Google of its autonomous car project in 2009, and the Facebook team designs a program called Deep Face capable of recognizing faces with only 3% of error, we also cite the role of artificial intelligence that opens to the general public with the help of connected speakers, Alexa of Amazon capable of interpreting and answering common questions.

We add the chatGpt or Chatbots and automatic translation which are AI programs widely used in organization management to improve their performance on all levels [10]. These programs offer solutions such as data analysis, literature search, text analysis, trend and outlook forecasting and performance evaluation, as well as contributing to the improvement of customer relations, by offering efficient solutions in decision making especially in the field of finance and banking [11].

III. RESULTS OF THE LITERATURE

The critical and synthetic reading of a rich body of literature review dealing with the organization management in an agile and evolving context reveals a set of issues and levers encountered by these organizations. Indeed, according to the literature, the adoption of ICT and digitalized processes is not a choice or a luxury but rather an obligation to remain competitive and efficient especially in these contexts characterized by the succession crises (such as; economic, social, health, political, etc.), rapid technological change, etc.

The organizational change theory [12] [13] [14], theory of structuration [8]Unified Theory of Acceptance and Use of Technology (UTAUT) [15] and the findings of empirical and theoretical studies carried out in different context over the world, are the scientific background used to frame and analyze the research problematic defined for this paper.

In this perspective, the theoretical exploration carried out in this paper permits to deduce and highlight many research proposals that open other views and avenues of reflection for researchers in this field. These perspectives could be comprehended by conducting other exploratory and confirmatory studies to further explain the phenomenon of organization management in the era of digital and AI.

IV. THEORETICAL FRAMEWORK OF THE RESEARCH

A. The theory of organizational change

Organizational change is seen as one of the major concerns of organizations looking to upgrade and change their managerial practices and organizational structures, in both the public and private sectors.

Change is defined "as a kind of balance between the known existing and the promised future, its adherence consists of wanting to abandon one's existing and believing in the expected future"[16].

The changing environment obliges organizations to implement transformations [11] to steer all change projects with the aim of anchoring and developing organizational capabilities that promote change [17]. This evolution can be represented by the historical shift of paradigms or approaches [16].

According to (Autissier and Moutot 2016), change requires the acceptance of the risk of losing a known existing situation for an uncertain future. In this situation, actors show active or passive resistance behaviors [16]. These behaviors may be alleviated by Focus Group work, and as a result, an individual accepts change through dialogue within the groups to which he or she belongs, with a view to changing norms [18].

Kurt Lewin's (1951) sociological approach was developed in the 1950s. According to this author "the individual develops behavioural resistance to change, explained by the abandonment of routines, the fear of the unknown and the effort of learning" [17].

Kurt Lewin has defined three phases of change management: decrystallization, transition and recrystallization.

- Decrystallization (Unfreeze): is the period when people begin to question their perceptions and behaviors towards change, whether voluntarily or involuntarily (by developing positive or negative attitudes towards new processes);
- Transition (Change): the actor gradually adjusts to the new procedures by experimenting new ways of doing things;
- Recrystallization (refreeze): this step consists of putting in place the new structures and organizations, brought about by the changes, and consolidating it to prevent any return to the old routines.

According to Kanter's (1970/1980) instrumental approach, change becomes an intervention method which aims to replace existing practices through the leverage of change support levers such as communication or training [18].

Indeed, the management of organizational change plays a key role in Giddens' structuring theory, which explains the shifts

between individual and collective organizational dynamics [19].

B. The structuration theory

Giddens' structuration theory (1979, 1987) offers a strong analytical framework for linking the actions and interactions of actors to the characteristics of the structure or organization (institution) [20]. Today, it is one of the most influential currents for information systems research, and Giddens is thus one of the most cited authors concerning the interactions between technology, the organization and the individual [21]. This is the case for our study, in which we seek to investigate the interaction between the digital process, the user and organizations.

Three dimensions of analysis are proposed by Giddens: meaningfulness, dominance and legitimization, combined with the three levels of analysis mentioned above (structure, structuring modalities and individual-actor). This theory leads to a set of rules and resources that enable interaction between actors in a structure [19].

The dynamism and interaction between actors can be explained by the three dimensions developed by (Giddens, 1987):

- A dimension that enables actors to give meaning to their actions and relationships, helping to reduce the uncertainty associated with all behavior;
- A second dimension linked to power and dominance. This is the power to "continually deploy, in everyday life, a battery of causal capacities, including the power to influence the causal capacities deployed by other agents" (Giddens, 1987: 63);
- A third dimension is linked to compliance with rules, which becomes a means of legitimizing action.

(Kechidi 2005) concludes that the organization's structuring is based on social interaction between actors. Similarly, the structuration theory developed by Giddens approaches structures as a set of rules and resources that structure the organization's activities, giving them meaning and purpose within a framework where its mechanisms enable interaction between actors [19].

Indeed, Gidden's structuring theory is recognized for its robustness in the context of social interactions. According to Giddens, "structuring cannot therefore be thought of apart from action and the actor". This complementary relationship between organization, activities and actors has been explained by (Eraly 1988), who has proposed a very interesting analogy, illustrated in the following figure:

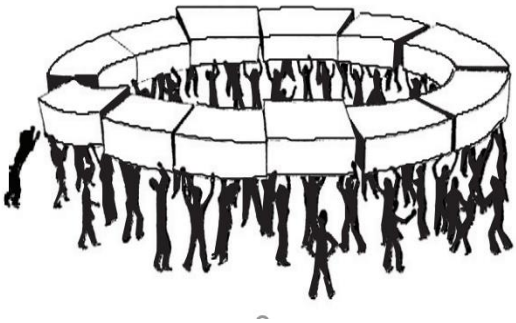

Figure 1: structure actors' interactions

Structuration theory aims to explain the mutual construction of action by competent agents interacting through the recursive nature of human activities, social practices performed in space-time [21]. This space is considered by Giddens as the central place of the contextuality in the theory of structuration. Referring to the literature review, "structuration theory is at the origin of a reinterpretation of the classic currents of sociological thought, it appears as a new theory of social interaction (Rojot, 2000), which sees organizations not as formal structures, but as models of social relations" [22] quoted by [21].

C. The theory of diffusion of innovation (TDI)

It was initiated by Rogers in 1983. The interest of this theory in Rogers' sense lies not only in understanding the process of technological innovation, but also in the way it is disseminated [23]. This theory determines the rate of diffusion of innovation; its purpose is to determine the level of acceptance by the members of a social system [24] from the invention level to the stage of extended and actual use [25].

According to Rogers 1983, the decision-making process for accepting new innovations consists of 5 phases: Knowledge (the individual is aware of the adoption of the innovation), Persuasion (the individual develops their attitude and adopts a positive or negative attitude towards it), Decision (the individual is determined to accept or reject the acceptance of the innovation), Implementation (the innovation is put into application with the support of change agents and technical assistance), Confirmation (the innovation is implemented with the help of change agents and technical assistance), Confirmation (the innovation is implemented with the help of change agents and technical assistance).

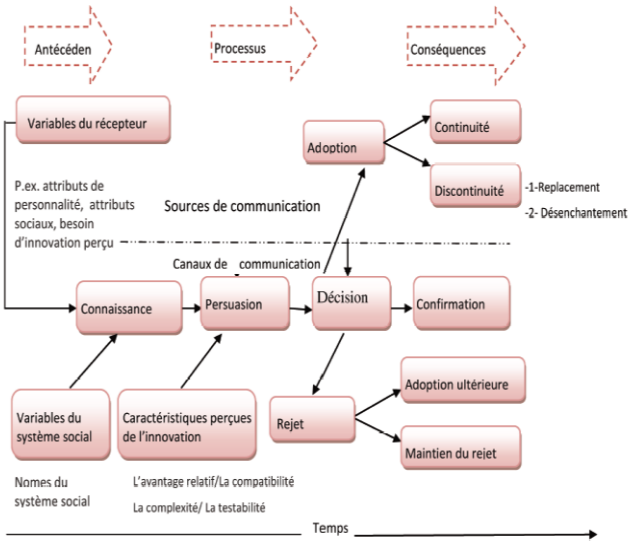

Figure 2: the theoretical model of innovation diffusion

Indeed, the rate of acceptance of the innovation depends on the employee's acceptance behavior [24], which is determined according to Innovation Diffusion Theory (IDT) by 5 complex variables; perceived attributes, decision type, communication channel, Social System and the change agent [26] [27].

TABLE 1: RESEARCH PROPOSALS

Authors	Main ideas	Research proposals
[16] [1]	• Artificial intelligence and digital transformation are antecedents to building an agile and adaptive organizational structure; • Access to abundant information via Big Data, AI, and digital enables organizations to react easily and in an innovative and creative way to changes of the environment; • Cloud computing also facilitates inter-organizational communication and coordination, which improves partnership agility	Digital and AI: antecedents of organizational agility and flexibility
[9] [1] [17]	• AI and digital tools enable improved analysis of the voluminous data generated by Big Data; • Technologies and IT tools allow to feed decision support devices following the access to the required information at the right time; • Cloud Computing is one of the factors of agility that helps in decision making, as it allows for more rapid transmission and sharing of information.	Digital transformation and AI: vectors of governance and strategic intelligence of organizations
[1] [18]	• Transforming the organization structure becomes imperative and requires new capabilities (resources, technological tools, organizational capabilities, etc.) often offered by digital; • The digitalized devices procure the organizations with the flows of information, which allow them to continuously adapt their behavior, as well as to reduce the margin of error and risk taking; • IT and AI improve the company's ability to face unexpected changes of the environment, thank to innovative and rapid actions tending to make the changes, as opportunities for development.	Digital transformation and AI as catalysts for organizational change
[19] [20] [10]	• Digital and AI functionalities such as Cloud Computing enable the transfer of knowledge and the integration of collaboration tools within companies and between partners; • Digital supports organizational efficiency by optimizing internal operations and management processes • AI and Cloud Computing enable the development of new skills have been supported as the basis of developing the organization's competitive advantage • The application of AI offers the possibility to promote economic growth through the optimization of resources and execution time. • Alignment of the economic challenges and information technology to achieve satisfactory levels of performance.	Digital transformation and AI as vectors of efficiency and effectiveness of organizations
[15] [8] [22]	• The rise of AI is likely to have strong implications on the job market and the conception of work; • In the era of digital and AI, many jobs tend to disappear and be replaced by robots; • Digital and AI are also expected to trigger major transformations in terms of employability and the skills required (decision-making, informational, interpersonal, technical and human) by employees and job seekers • AI could support human beings in repetitive tasks and "offer them the possibility to focus more on the tasks at the heart of their skills", while human capital seems to retain its superiority on complex tasks that require a level of intelligence and reflection. • The great use of digital and AI in the workforce management triggers the competition of women and men on the job occupation, consequently allows the significant integration of the feminist element in the job market.	Digital and AI: vectors of change in professions, the conception of work and the evolution of skills

Source: authors

IV. DISCUSSION

Actually, the business context is mostly fascinated by different and complex issues, for instance, the accented development of digital and AI devices, the activity sector progress and evolution, the succession of crisis, etc. The previous studies have significantly supported these factors as the levers and antecedents of the business models innovation [28] in order to meet the new requirement (in terms of resilience, agility, adaptive capabilities, strategic renewal and entrepreneurial orientation, etc.) of the new millennium [29].

In this context, our research theoretical framework based on the organizational change theory, structuration approach and UTAUT theory approaches the business structure as an open system that should be flexible in order to adjust to the new exigencies of the business environment of 21 century. Also, the business model adjustment ensures the structure sustainability and resilience.

Besides, the analysis of the previous studies dealing mainly with the phenomenon of organization management in the period of ICT and AI reveals several research proposals which need to be empirically explored and confirmed. Indeed, according to our conclusions, the technological devices promote the organizational change, business process effectiveness, resilience, agility, sustainably, and business performance, efficiency and growth. As well, the ICT integration in the business management impacts in remarkable way the work configuration, competencies, skills and collaborator employability [30].

However, the ethical issues and the fact of denigrating the human reflection and intelligence are the main constrains and short comes largely reproached to the digital devices use in the context of organization management [31].

V. CONCLUSION, LIMITS AND PERSPECTIVES

The adoption of ICT and digital devices in the context of organization management does not date from today, but it goes back to the 60's with the scholars of the decision theories (school of decision making) such as H Simon and March, who had recommended the use of digital techniques to optimize the management and decision-making practices of the organizations. Today, the adoption of these new techniques is no longer fashionable, but they are becoming essential to ensure strategic intelligence and to keep up with the accentuated changes of the business environment.

However, the literature tends to criticize the increased use of digital and AI in the work and organizational context. This is for a number of reasons; firstly, digital tends to undermine the human warmth, social relationships and friendly atmosphere that employees develop in the work context. Secondly, the use of AI and its different variants raises ethical and moral questions insofar as this technological revolution tends to surpass and devaluate human capacities and intelligence, the critical analysis and human cognitive capabilities considered by the previous researches more efficient comparatively to the machine and digital analysis.

This research paper develops theoretical contributions by presenting a set of research proposals developed on the basis of the analysis of the literature review, but its scientific scope remains limited and open to criticism. For this reason, we propose as avenues for future research, to carry out other exploratory and/or confirmatory empirical studies of this organizational phenomenon in order to describe, explain and comprehend deeply this complex social reality.

REFERENCES

[1] A. Simard, "The Adoption of Artificial Intelligence (AI) for the Development of Intelligent Public Services," p. 13, 2022.

[2] J. Barrère and N. Cherkaoui, "The New Horizon of Digital Transformation: 9 Pillars to Develop a Data-Driven Strategy." Dunod, 2022. Accessed on August 6, 2022. Available at: https://international.scholarvox.com/catalog/book/docid/88926832?searchterm=digital%20transformation

[3] D. J. Caron, V. Nicolini, Chair of Research in Information Resource Exploitation, and National School of Public Administration (Quebec), "Transformation of Public Administration towards Digital and Document Management: Literature Review and Reflection on the Future." 2021. Accessed on July 15, 2022. Available at: http://central.bac-lac.gc.ca/.redirect?app=damspub&id=5cac4f35-79a3-42ec-90fb-e26c3aca6d83

[4] Cigref, "Strategies, Governance, and Challenges of Artificial Intelligence in Enterprises." 2018. Accessed on June 26, 2022. Available at: https://www.cigref.fr/publication-intelligence-artificielle-en-entreprise-strategies-gouvernances-et-challenges-de-la-data-intelligence

[5] C. Du Jardin, "Manager 3.0: Artificial Intelligence - Managing Change!" Iggybook, 2020. Accessed on August 6, 2022. Available at: https://international.scholarvox.com/catalog/book/docid/88901748?searchterm=digital%20transformation

[6] S. Frimousse and J.-M. Peretti, "How to Develop an Organization's Transformation Capacity?" Question(s) de management, vol. 21, no. 2, pp. 157-180, 2018. DOI: 10.3917/qdm.182.0157.

[7] L. Giraud, S. Hernandez, D. Autissier, and A. McGonigal, "Evolution of Managerial Skills in the Face of the Rise of Artificial Intelligence: A Mixed Methods Approach." Management & Avenir, vol. 122, no. 2, pp. 143-169, 2021. DOI: 10.3917/mav.122.0143.

[8] M. Haenlein and A. Kaplan, "A Brief History of Artificial Intelligence: On the Past, Present, and Future of Artificial Intelligence." California Management Review, vol. 61, no. 4, pp. 5-14, August 2019. DOI: 10.1177/0008125619864925.

[9] O.-K. (Daniel) Lee, V. Sambamurthy, K. H. Lim, and K. K. Wei, "How Does IT Ambidexterity Impact Organizational Agility?" Information Systems Research, vol. 26, no. 2, pp. 398-417, June 2015. DOI: 10.1287/isre.2015.0577.

[10] S. Mallard, "Disruption: Artificial Intelligence, the End of Salary Labor, Augmented Humanity." Dunod, 2018.

[11] A. Roger, "Essentials of Organization Theory," 12th edition. Gualino, 2020.

[12] N. Sabouk and M. Larbi Sidmou, "Artificial Intelligence: Towards a New Interdisciplinary Paradigm - State of the Synthesis," November 2019. DOI: 10.5281/ZENODO.3552563.

[13] P. Zaraté, "Artificial Intelligence from Yesterday to Today," February 2021.

[14] D. A. E. Bour and B. Lebzar, "Artificial Intelligence and Moroccan Companies: What Challenges?" International Journal of Digital Economy, vol. 2, no. 1, Art. no. 1, July 2020.

[15] D. Singh, "ChatGPT: A New Approach to Revolutionize Organizations," International Journal of New Media Studies (IJNMS), vol. 10, no. 1, 2023. Accessed on March 26, 2023. Available at: https://www.ijnms.com/index.php/ijnms/article/view/45

[16] D. Autissier and J.-M. Moutot, "Change Management Method: Diagnosis, Support, Performance," 4th edition. Dunod, 2016. Accessed on April 6, 2022. Available at: https://international.scholarvox.com/catalog/book/docid/88836236?searchterm=organizational%20change%20management

[17] D. Autissier and E. Metais-Wiersch, "From Change to Transformation," Question(s) de management, vol. 21, no. 2, pp. 45-54, September 2018.

[18] D. Autissier and J.-M. Moutot, "Agile Change: Rapid and Sustainable Transformation," Dunod, 2015.

[19] M. Kechidi, "Structuration Theory: An Analysis of Organizational Forms and Dynamics," ri, vol. 60, no. 2, pp. 348-369, 2005. DOI: 10.7202/011725ar.

[20] A. Beldi, W. Cheffi, and F. Wacheux, "The Use of Accounting Information by Managers: A Proposed Analytical Grid Based on Structuration Theory," 27th AFC Congress, May 2006.

[21] A. Leclercq-Vandelannoitte, "A Critical Look at the Structurationist Approach in IS: A Comparison with the Foucauldian Approach," 2010. Accessed on June 19, 2023. Available at: https://documentation.insp.gouv.fr/insp/doc/CAIRN/_b64_b2FpLWNhaXJuLmluZm8tU0lNXzEwMV8wMDM1/un-regard-critique-sur-l-approche-structurationniste-en-si-nbsp-une-comparaison-avec-l-approche-fouc

[22] J. Goff and D. Autissier, "Duality of Structure and Sectoral Dynamics: Application to the Distribution of Electronic Components," 2000.

[23] E. M. R. QUINLAN ARVIND SINGHAL, MARGARET M., "Diffusion of Innovations," in An Integrated Approach to Communication Theory and Research, 2nd edition. Routledge, 2008.

[24] H. Aziz, "Evaluation of Determinants of Information and Communication Technology Adoption in Luxury Hotels in Marrakech," PhD thesis, University of Perpignan, 2020. Accessed on June 19, 2023. Available at: https://theses.hal.science/tel-03030431

[25] E. M. Rogers, "Lessons for Guidelines from the Diffusion of Innovations," The Joint Commission Journal on Quality Improvement, vol. 21, no. 7, pp. 324-328, July 1995. DOI: 10.1016/S1070-3241(16)30155-9.

[26] A. Cheikho, "Adoption of Technological Innovations by Customers and Its Impact on Customer Relationships: The Case of Mobile Banking," PhD thesis, Université Nice Sophia Antipolis, 2015. Accessed on June 19, 2023. Available at: https://theses.hal.science/tel-01231801

[27] Y. Zhai, Y. Ding, and F. Wang, "Measuring the Diffusion of an Innovation: A Citation Analysis," Journal of the Association for Information Science and Technology, vol. 69, no. 3, pp. 368-379, 2018. DOI: 10.1002/asi.23898.

[28] Darek. M. Haftor and R. Climent Costa, "Five Dimensions of Business Model Innovation: A Multi-Case Exploration of Industrial Incumbent Firms' Business Model Transformations," Journal of Business Research, vol. 154, January 2023. DOI: 10.1016/j.jbusres.2022.113352.

[29] M. C. Baghiu, "Analysis of Business Model Innovation in the Post-COVID Economy: Determinants for Success," Journal of Public Administration, Finance and Law, no. 17, pp. 7-24, 2020.

[30] A. Al-Dulaimi, X. Wang, and C.-L. I, "5G Networks: Fundamental Requirements, Enabling Technologies, and Operations Management." John Wiley & Sons, 2018.

[31] H. Benbya, S. Pachidi, and J. Sirkka, "Special Issue Editorial: Artificial Intelligence in Organizations: Implications for Information Systems Research," Journal of Association for Information Systems, 2021. Accessed on April 22, 2023. Available at: https://aisel.aisnet.org/cgi/login.cgi